GALTON'S OUTLOOK ON RELIGION *

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FRANCIS GALTON was born on February 16th, 1822, and died on January 17th, 1911. His eighty-nine years of life spanned the last three-quarters of the nineteenth century and the first decade of the twentieth. It was a serene and fruitful period wherein economic expansion and scientific progress generated hopeful expectations about man's future. These sentiments were reflected in the contemporary philosophical outlook and were shared, sustained and stimulated by Galton.† He was fortunate to die three years before the outbreak of the first world war, which event will be regarded by future historians as the beginning of the twentieth century's period of disillusionment and disrupted ideals.

Galton's book, *Inquiries into the Human Faculty*, wherein for the first time the word "eugenics" was used, was published in 1883—sixty-three years ago. It was republished in 1907 in the Everyman Library,‡ in which form it is still available. From this recent edition three of the original chapters were omitted. Their titles are: Theocratic Intervention, Objective Efficacy of Prayer, and Enthusiasm. Galton notes these excisions in his preface to the Everyman edition, which he concludes with the words: "After all, the omission of these chapters, in which I find nothing to recant, improves, as I am told, the general balance of the book."

Yet these chapters give a valuable insight into Galton's outlook on religion, wherein the belief in theocratic intervention and in the objective efficacy of prayer found no place. For it is clear that if the laws of planetary motion, of gravity, of light, heat, sound, etc., were subject to arbitrary suspensions or reversals through the intervention of divine or dæmonic agencies, there could be no science. The same may be said of the laws of heredity. If, for example, it were proved that the birth of intelligent and healthy children to parents lacking these qualities could be promoted by the exercise of prayer, there would be no object in studying the laws of heredity. Prayers would become a substitute for careful breeding.

Galton's paper "Statistical Inquiries into the Efficacy of Prayer" first appeared in the *Fortnightly Review* of August 1872. His arguments provoked a minor controversy and shocked some of his contemporaries, who spoke of him as a flippant free-thinker. Galton's thoughts about religion were certainly free, but they were not flippant; for Galton was by nature a religious man and there was a religious background to his views about eugenics which we should try to understand.

Galton believed that eugenics was a science which called for the patient study of natural processes; he also believed that it was a practice which should guide social policy; and he further believed that it should be a factor in religion.

These three aspects of eugenics are consistent with each other and are derived from Galton's reactions to the evolution theory. His essential views changed little throughout his active life, for the same themes recur throughout the works of his middle and old age.*

I will begin by trying to summarize Galton's views in a few simple propositions, which will then be elaborated.

1. Tribal religion serves an evolutionary

* A paper read before the *Eugenics Society* on March 19th, 1946.

† Few men have had better biographers than Galton. Professor Karl Pearson's four carefully compiled, beautifully illustrated and faithfully indexed volumes have been of inestimable help to me.

‡ J. M. Dent & Sons.

* His views are given in *Hereditary Genius* (1869: Galton 47 years of age); in *Human Faculty* (1883: Galton 61); in an article published in the *National Review*, August 1894, entitled "The part of Religion in Human Evolution" (Galton 72); and in the last decade of his life when Galton was much concerned with eugenics. His *Memories* were written when he was 87.

or biological purpose in giving cohesiveness to the tribe, thereby increasing its efficiency and its chances of survival in inter-group struggles. All tribal religions are closely concerned with the processes of birth, marriage and death.

2. Within historical times, man has exerted enormous effects on the surface of the planet and on the distribution of human races thereon.

3. Mental and moral qualities are inheritable as are physical, and like them are malleable. A great power is here to hand.

4. Man's faculties are increasingly unequal to the requirements of his civilization.

5. Very severe competition and struggle may produce undesirable results and are not therefore necessary either for evolutionary or for social progress.

6. Religion should be concerned with the furtherance of human evolution.

7. Lastly I will say something about Galton's mysticism and about his outlook during the last years of his life on Christianity and Prayer.

1. Biological Value of Tribal Religions

The derivation of the word religion is uncertain; it is thought by some to be derived from the Latin *Ligo*, I tie together. From the same root come such words as ligature, ligament, etc. During Galton's life there was much discussion of social anthropology; Herbert Spencer was engaged on his monumental *Principles of Sociology*; and T. H. Huxley was writing about evolution and ethics. Tylor's *Primitive Culture* was first published in 1871; Frazer's *Golden Bough* in 1890. Galton had, moreover, gained first-hand experience of primitive tribes in south-west Africa during his early manhood.

The earliest function of religion, Galton held, was to give cohesion and a common social consciousness to the tribe.

> Many influences that bind barbarians are illusions, such as totems, tutelar deities, and much else, but, for all that, they supply sufficient cohesive force to unite them into organized bodies. Whenever a struggle arose between a compact tribe and an equal number of separate individuals, the former would win, however their compactness may have grown into existence. Or again, between two barbaric nations, the one that was the most superstitious of the two would generally be the more united, and therefore the more powerful.*

The smaller the tribe and the greater the danger of its being overrun, enslaved or culturally absorbed, the greater the need of a tribal religion which would knit together its members and weld them into a singly reacting whole. For biological reasons it is necessary that the processes of birth, marriage and death should be regulated by custom and religion, and that they be celebrated by impressive rites, often of a sacramental character, which stress the ulterior significance of these events and bring home to us that their implications reach beyond our limited selves.

2. Influence of Man upon the Planet and upon the Human Race

The powers which man has displayed, not by design but as a by-product of his day-to-day life, are immense. They are to be seen

> on the surface of the globe, and in the distribution of plants and animals. He [man] has cleared such vast regions of forest that his work that way in North America alone, during the past half-century, would be visible to an observer as far off as the moon. He has dug and drained; he has exterminated plants and animals that were mischievous to him; he has domesticated those that serve his purpose, and has transplanted them great distances from their native places.†

A chapter in *Inquiries into the Human Faculty*‡ is devoted to the influence of man upon race. The standpoint which, despite Herbert Spencer and the anthropologists, prevailed in the eighties is alluded to.

> One of the most misleading words is that of "aboriginees." Its use dates from the time when the cosmogony was thought to be young and life to be of very recent appearance. Its usual meaning seems to be derived from the supposition that nations disseminated themselves like colonists from a common centre about four thousand years, say 120 generations, ago, and thenceforward occupied their lands undisturbed until the very recent historical period with which

* The *National Review*, August 1894, p. 755.
† *Human Faculty*, p. 197.
‡ pp. 200-7.

the narrator deals, when some invading host drove out the "aboriginees." This idyllic view of the march of events is contradicted by ancient sepulchral remains, by language, and by the habits of those modern barbarians whose history we know.

Galton goes on to point out what changes of race and population have occurred within historical times. He cites Spain, where, among the early Iberians and Basques, colonies were formed by Phœnicians and by Greeks. Carthaginians, who later invaded the country in the third century B.C., were supplanted by Romans who ruled it for 700 years. Spain was invaded in the fifth century A.D. by a succession of German tribes, and was then overrun by Visigoths, who ruled it for 200 years. Then came the Moors, who were in their turn displaced.

> The present population consists of the remnants of one or more tribes of ancient Iberians, of the still more ancient Basques, and of relics of all the invaders who have been named. There is besides a notable proportion of Gypsies and not a few Jews.

Galton mentions the remarkable migrations of Gypsies and describes how, in the territories of Africa which he had explored, negroes had been displaced by bushmen, who were later supplanted by Bantus; these, at the time he visited them, were being pushed aside by the superior Namaquas, themselves a mixed race.

Changes of race and population in Siberia, North and South America, the West Indian Islands, in Australia and New Zealand are then described. From all this Galton concludes that man has unconsciously exercised an enormous influence, both quantitative and qualitative, on himself. He writes:

> The power in man of varying the human stock vests a great responsibility in the hands of each generation, which has not been recognized at its just importance, nor deliberately employed. It is foolish to fold the hands and to say that nothing can be done, inasmuch as social forces and self-irterest are too strong to be resisted. They need not be resisted: they can be guided.

3. Mental and Moral Qualities are Inheritable like Physical, and are Malleable

That mental and moral characteristics are inherited is to-day so taken for granted that we may scarcely realize how hesitatingly the lessons of Darwin's *Origin of Species* were applied to man. The views on heredity, current during Galton's middle life, were vague and contradictory. Galton wrote of them:

> Speaking generally, most authors agreed that all bodily and some mental qualities were inherited by brutes, *but they refused to believe the same of man.* Moreover, theologians made a sharp distinction between the body and the mind of man on purely dogmatic grounds. A few passages may undoubtedly be found in the works of eminent authors which are exceptions to this broad generalization, for the subject of human heredity had never been squarely faced, and opinions were lax and contradictory. It seems hardly credible now that even the word heredity was then considered fanciful and unusual. I was chaffed by a cultural friend for adopting it from the French.* (My italics.)

That the author of the *Origin of Species* shared the prevailing uncertainty is shown by a letter to Galton wherein Charles Darwin records his first reactions on reading *Hereditary Genius*. The letter contains the following passage:

> You have made a convert of an opponent in one sense, for I have always maintained that, excepting fools, men did not differ much in intellect, only in zeal and hard work; and I still think this is an eminently important difference.†

It is remarkable that Darwin records himself as doubting that men differed much in intellect. The reading of *Hereditary Genius* probably helped him to extend his theory, for in *The Descent of Man*, first published in 1871, Galton's work, which was unnoticed in the *Origin*, is several times quoted.

Galton's views on the hereditary nature of mental qualities were first advanced in 1864 in two papers published in *Macmillan's Magazine*, entitled "Hereditary Talent and Character." Karl Pearson refers to the argument there developed that psychical and physical characters are equally inherited—as the "foundation stone of Galton's anthropological work." Large vistas were suddenly disclosed. "We cannot," wrote Galton,

* *Memories*, p. 288.

† A facsimile of this letter is given in Volume I, opposite page 6, of Pearson's *Life*.

" doubt the existence of a great power ready to hand and capable of being directed with vast benefit as soon as we shall have learnt to understand and to apply it." *

4. MAN'S FACULTIES INCREASINGLY UNEQUAL TO THE NEEDS OF HIS CIVILIZATION

What would Galton have thought of modern socialism? He mentioned the subject little in his writings, which, as far as they go, suggest that he would not have sympathized with the school of eugenists which condemned socialism as " anti-biological." Galton seems to have thought that to be successful socialism would require human beings to be mentally and morally superior to those then experimenting with the idea. An article, written in 1894,† contains a reference to socialism which Karl Pearson says is the only one he can recall Galton to have made. The article has an almost uncanny bearing on recent events. Here are some passages:

> It has now become a serious necessity to better the breed of the human race. The average citizen is too base for the every day work of modern civilization. Civilized man has become possessed of vaster powers than in old times for good or ill, but has made no corresponding advance in wits and goodness to enable him to direct his conduct rightly.

Galton saw around him an increasing scepticism of dogmatic religion, and he believed that a re-statement of religious principles was needed. But he doubted whether human beings had yet acquired the intelligence and moral balance necessary to tolerate the change. If traditional beliefs were swept away before men were mature enough to accept better alternatives, there would be a period of feverish and unsuccessful experiments, socialist experiments among them, which would end in failure.

> Let us suppose a nation whose established . . . religion, whatever it may be, has become discredited by the majority of its people, including most of those who were trusted as leaders of opinion. Further let us suppose the nation to be suffering in a still more acute form than our own, from poverty, toil and an unduly large contingent of the weakly, the inefficient, and the born criminal classes, and that the existing social arrangements are acknowledged to be failures. Further, again, I will make the reasonable supposition that socialistic experiments on various scales and in various ways had been largely tried and confessedly found ineffective owing to the moral and intellectual incompetence of the average citizen. There would then be a widely-felt sense of despair; there would be ominous signs of approaching anarchy and of ruin impending over the nation, while a bitter cry would arise for light and leading . . . In the imagined event, preachers of all sorts of nostrums would abound, mostly fanatics who could see only one side of a question, and on that account they would be all the more earnest in their opinions and persuasive to the multitude.

Does not the last paragraph evoke before our eyes the picture of pre-Nazi Germany? Throughout the whole passage runs the thought that the present moral qualities of civilized man are unequal to the task of social organization which to-day confronts him. Needed are more independence of mind, more tolerance, more co-operativeness. Strengthen these qualities, and the socialist dream of a state sustained by voluntary co-operation rather than by intra-group competition comes nearer.

Weaken them, and we head for the servile state, its citizens driven by the whip and sustained by the cult of the God-like leader: we revert to " the tyrannies under which men have lived, whether under rude barbarian chiefs, or under the great despotisms of half-civilized Oriental countries." *

Here is another passage written in 1873:

> Great nations, instead of being highly organized bodies, are little more than aggregations of men severally intent on self-advancement, who must be cemented into a mass by blind feelings of gregariousness and reverence to mere rank, mere authority, and mere tradition, or they will assuredly fall asunder. . . . But the case would be very different in those higher forms of civilization, vainly tried as yet, of which the notion of personal property is not the foundation but which are, in honest truth, republican and co-operative, the good of the community being literally a more vivid desire than that of self-aggrandizement or any other motive whatever.

Professor Karl Pearson has shown how Galton's interest in anthropology and psycho-

* *Essays in Eugenics*, 33.

† " The Part of Religion in Human Evolution," *National Review*, August 1894, pp. 755-65.

* *Human Faculty*, p. 55.

logy grew out of his experiences as a geographer. That these human interests, centring on the essential problem of freedom, were present very early in life may be seen from an interesting quotation, topical in other contexts to-day, from his book *Tropical South Africa*, published in 1853 when Galton was thirty-one. He is speaking of the Damaras.

> These savages *court slavery*. You engage one of them as a servant, and you find that he considers himself as your property, and that you are, in fact, become the owner of a slave. They have no independence about them, generally speaking, but follow a master as a spaniel would. Their hero-worship is directed to people who have wit and strength enough to ill-use them. Revenge is a very transient passion in their character; it gives way to admiration of the oppressor. The Damaras seem to me to love nothing: the only strong feelings they possess, which are not utterly gross and sensual, are those of admiration and fear. They seem to be made for slavery, and naturally fall into its ways. Their usual phrase with reference to the missionaries is, "Oh, they are wise but weak"; but Jonker and the Hottentots are, I could almost say, their delight. They wonder at their success.
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> All over Africa one hears of "giving" men away: the custom is as follows. A negro has chanced to live a certain time in another's employ; he considers himself his property, and has abandoned the trouble of thinking what he is to do from day to day; but leaves the ordering of his future entirely to his employer. He becomes too listless to exist without a master. The weight of independence is heavier than he likes, and he will not bear it. He feels unsupported and lost if alone in the world, and absolutely requires someone to direct him. Now, if the employer happens to have no further need of the man, he "gives" him, that is to say, he makes over his interest in the savage to a friend or acquaintance; the savage passively agrees to the bargain, and changes his place without regret; for so long as he has a master at all, the primary want of his being is satisfied. A man is "given" either for a term or for ever; and it was on this tenure that I held several of my men. Swartboy gave me his henchman; Kahikene, a cattle-watcher; Mr. Hahn, a very useful man, Kambanya. As a definition of the phrase "giving a man," I should say it meant, "making over to another whatever influence one possesses over a savage; the individual who is given not being compelled but being passive."

One last quotation will show how Galton's opinions about slavish instincts and original sin crystallize in the view that man's faculties are increasingly unequal to the needs of his civilization:

> I hold that the blind instincts evolved under those long-continued conditions have been deeply ingrained in our breed, and that they are a bar to our enjoying the freedom which the forms of modern civilization could otherwise give us. A really intelligent nation might be held together by far stronger forces than are derived from the purely gregarious instincts. It would not be a mob of slaves, clinging together, incapable of self-government, and begging to be led; but it would consist of vigorous, self-reliant men, knit to one another by innumerable attractions, into a strong, tense and elastic organization. Our present natural dispositions make it simply impossible for us to attain this ideal standard, and therefore the slavishness of the mass of men, in morals and intellect, must be an admitted fact in all schemes of regenerative policy. The hereditary taint due to the primæval barbarism of our race, and maintained by later influences, will have to be bred out of it before our descendants can rise to the position of free members of a free and intelligent society.*

5. Very Severe Competition under Harsh Conditions may Retard Progress

In the last quarter of the nineteenth century, there was much public discussion of the social implications of the evolution theory. Nobody doubted that there was a "struggle for existence" among wild animals and plants, and that this struggle had been a factor in evolutionary change. But how far was a continuation of such struggle necessary for the further progress of man? Civilization, culture, tradition, depend on the social instincts of man. Literacy and even speech itself are parts of our social inheritance. If we derive everything that makes us human from social tradition and co-operation, how far, we may ask, is the continued struggle between man and man necessary for the development of humanity?

Diverse answers were given by the controversialists of the period, and discussion turned much on the effects of two kinds of struggle—that *inside* social groups and that *between* social groups, or, as they were called,

* "Gregariousness in Cattle and Men," *Macmillan's Magazine*, 1872, pp. 353-7.

intra-group and *inter*-group struggle. According to one school of thought whereof Benjamin Kidd, author of *Social Evolution*, was a leading exponent, intra-group struggle was necessary for the evolutionary progress of man. Both Galton and Pearson* opposed Kidd's thesis and disputed the conclusions he drew from it.

The effects of a struggle for existence on man depended, in Galton's view, on what the struggle was against. Some of the features of civilization were injurious to the race, and of these Galton regarded two as especially harmful—wealth and urbanism. After discussing the adverse effects on fertility of urbanism, Galton wrote :

> Again, the ordinary struggle for existence under the bad sanitary conditions of our towns, seems to me to spoil and not to improve our breed. It selects those who are able to withstand zymotic diseases and impure and insufficient food, but such are not necessarily foremost in the qualities which make a nation great. On the contrary, it is the classes of a coarser organization who seem to be, on the whole, most favoured under this principle of selection, and who survive to become the parents of the next generation. . . . So again, in every malarial country, the traveller is pained by the sight of the miserable individuals who inhabit it. These have the pre-eminent gift of being able to survive fever and therefore . . . are apt to be deficient in every quality less useful to the exceptional circumstances of their life.†

And in another context :

> When the severity of the struggle for existence is not too great for the powers of the race, its action is healthy and conservative, otherwise it is deadly, just as we may see exemplified in the scanty, wretched vegetation that leads a precarious existence near the summer snow-line of the Alps, and disappears altogether a little higher up.‡

Far from regarding intra-group struggle as a necessary condition of human progress, Galton strongly held that such struggle should now be reduced to a minimum. Man's advancement can be brought about by the simultaneous use of his intelligence and his kindliness. Several passages could be quoted to illustrate this standpoint. I will confine myself to one. It is the penultimate paragraph of Galton's *Memories*, and was therefore among the last things he wrote :

> Man is gifted with pity and other kindly feelings ; he has also the power of preventing many kinds of suffering. I conceive it to fall well within his province to replace Natural Selection by other processes that are more merciful and not less effective.
>
> This is precisely the aim of eugenics.

6. Religion Should Be Concerned with the Furtherance of Human Evolution

" The creed of eugenics is founded upon the idea of evolution," * wrote Galton in 1905. The picture of evolution as Galton saw it was awe-inspiring to the point of being frightening. It is a " spectacle of a vast eddy of organic turmoil, originating we know not how, and travelling we know not whither. It forms a continuous whole from first to last, reaching backward beyond our earliest knowledge and stretching forward as far as we think we can foresee . . . Its elements are in constant flux and change, though its general form alters but slowly." Both Galton and T. H. Huxley illustrated by similes this picture of change within constancy. Huxley compared it to the static waves, unmoving in positions and unchanging in contours, at the foot of Niagara ; Galton to the " curious stream of cloud that sometimes seems attached to a mountain top during the continuance of a strong breeze ; its constituents are always changing, though its shape as a whole hardly varies." The two similes convey exactly the same idea.

Evolution is " a grand phantasmagoria."† Galton does not seem to have believed that the phantasmagoria had a purpose in the sense that the human mind is purposive. He describes the process as " mechanical " ; in its wastefulness and ruthlessness, in its blundering steps of trial and error and in the immensity of its scale, it is inhuman and

* " Socialism and Natural Selection," by Karl Pearson. *Fortnightly Review*, July 1894.

† " Hereditary Improvements," *Fraser's Magazine*, 1873, p. 116 *et seq.*

‡ *Hereditary Genius*, p. 333.

* *Essays in Eugenics*, p. 68.

† Phantasmagoria : a medley of shifting series of imaginary figures, illusive images of real appearances : a shifting manifold assemblage of things seen.

terrifying. But its culmination on this earth is man.

> On the one hand, we know that evolution has proceeded during an enormous time on this earth, under, so far as we can gather, a system of rigorous causation, with no economy of time or of instruments, and with no show of especial ruth for those who, in pure ignorance, have violated the condition of life.
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> On the other hand, while recognizing the awful mystery of conscious existence and the inscrutable background of evolution, we find that, as the foremost outcome of many and long birth-throes, intelligent and kindly man finds himself in being. He knows how petty he is, but he also perceives that he stands here on this particular earth, at this particular time, as the heir of untold ages and in the van of circumstance.*

Little of human comfort is to be found in the grand panorama of evolution until we come to man. Man " may use his intelligence to discover and expedite the changes that are necessary to adapt circumstance to race and race to circumstance, and his kindly sympathy will urge him to effect them mercifully." Man has " already furthered evolution very considerably, half unconsciously and for his own personal advantages, but he has not yet risen to the conviction that it is his religious duty to do so deliberately and systematically." The following is the concluding paragraph of Galton's *Inquiries into the Human Faculty*:

> The chief result of these inquiries has been to elicit the religious significance of the doctrine of evolution. It suggests an alteration in our mental attitude, and imposes a new moral duty. The new mental attitude is one of a greater sense of moral freedom, responsibility, and opportunity; the new duty which is supposed to be exercised concurrently with, and not in opposition to, the old ones upon which the social fabric depends, is an endeavour to further evolution, especially that of the human race.

7. Galton's Mysticism: His Attitude to Prayer

Galton had a sense of the one-ness of life and of the visible universe. This " sense " might be called an emotion or a conviction; or it might be described as a mystical intuition. Pearson describes it as " pantheistic." Galton himself speaks of a " pure theism." I will quote from Galton's writings in chronological order.

The following passage is taken from the last page of *Hereditary Genius* published when Galton was forty-seven:

> We may look upon each individual as something not wholly detached from its parent source—as a wave that has been lifted and shaped by normal conditions in an unknown, illimitable ocean. There is decidedly a solidarity as well as a separateness in all human, and probably in all lives whatsoever; and this consideration goes far, as I think, to establish an opinion that the constitution of the living Universe is a pure theism, and that its form of activity is what may be described as co-operative. It points to the conclusion that all life is single in its essence, but various, ever-varying, and inter-active in its manifestations, and that men and all other living animals are active workers and sharers in a vastly more extended system of cosmic action than any of ourselves, much less any of them, can possibly comprehend. It also suggests that they may contribute, more or less unconsciously, to the manifestation of a far higher life than our own, somewhat as—I do not propose to push the metaphor too far—the individual cells of one of the more complex animals contribute to the manifestation of its higher order of personality.

In the year 1872, when he was fifty, Galton published in the *Fortnightly Review* the paper whose omission from the Everyman edition of his *Human Faculty* has already been noted, " Statistical Inquiries into the Efficacy of Prayer." Briefly the argument of this paper is as follows.

We are encouraged to ask for blessings, temporal as well as spiritual, in our prayers. Dr. Hook, the then Dean of Chichester, stated in his Church dictionary under " Prayer " that " the general providence of God acts through what are called the laws of nature. By this particular providence God interferes with those laws, and he has promised to interfere in behalf of those who pray in the name of Jesus."

Galton declares that the efficacy of this kind of prayer is a legitimate subject for scientific inquiry; and he casts in various directions for evidence, all of which is negative. The kin of prayerful people do not recover from illness more often or more rapidly than the kin of unprayerful.

* *Human Faculty*, p. 218.

Royalty, for whom long lives are much prayed for in anthems and in churches, " are literally the shortest lived of all who have the advantage of affluence " (Galton cites eleven comparable classes). Missionaries, who pray much and are much prayed for, often die in the alien climates of the peoples they set out to convert before they have had time to master their language. There is no difference in the infant mortality rates of prayerful and non-praying classes.

Before issuing policies, Life Assurance Companies do not include among their confidential inquiries questions such as: " Does he habitually use family prayers and private devotions? " It was once thought to be an act of mistrust in an overruling providence to put lightning conductors on churches; but Arago's collection of accidents from lightning showed them to be sorely needed. Many items of ancient faith are now relegated to the domain of superstitions. The sovereign no longer lays hands on the sick; witches are no longer burned; ordeals and duels are not now regarded as reasonable solutions of complicated difficulties; and the miraculous power of relics is now scouted. The *onus probandi* that prayers for temporal benefits are efficacious, Galton held, rests with the other side. Such arguments shock us less to-day than they would have seventy years ago.

But Galton, while not believing in the *objective* efficacy of prayer, believed in its *subjective* efficacy. This is how he concludes the article. Those who enjoy a sense of communion with God can, he says,

> dwell on the undoubted fact that there exists a solidarity between themselves and what surrounds them, through the endless reaction of physical laws among which the hereditary influences are to be included. They know that they are descended from an endless past, that they have a brotherhood with all that is, and have each his own share of responsibility in the parentage of an endless future. The effort to familiarize the imagination with this great idea has much in common with the effort of communing with a God, and its reaction on the mind of the thinker is in many important respects the same. It may not equally rejoice the heart, but it is quite as powerful in ennobling the resolves, and it is found to give serenity during the trials of life and in the shadow of approaching death.

Thus Galton concludes his attack on the belief in theocratic intervention with an affirmation of his mystical faith. The effort to become aware of the solidarity of the self with all life is akin to the effort to commune with God.

In his *Human Faculty*, published in 1883, when Galton was sixty-one, he wrote (page 196):

> It is difficult to withstand a suspicion that the three dimensions of space and the fourth of time may be four independent variables of a system that is neither space nor time, but something else wholly unconceived by us.

These words were written some forty years before Einstein's work was generally known. Galton again writes:

> Our part in the universe may possibly in some distant way be analogous to the cells of an organized body, and our personalities may be the transient but essential elements of an immortal and cosmic mind.

The following is a passage from Galton's *Memories* written when he was over eighty:

> I will mention here a rather weird effect that compiling these *Memories* has produced on me. By much dwelling on them they became refurbished and so vivid as to appear as sharp and definite as things of today. The consequence has been an occasional obliteration of the sense of Time, and to replace it by the idea of a permanent panorama, painted throughout with equal vividness, in which the point to which attention is temporarily directed becomes for that time the Present. The panorama seems to extend unseen behind a veil which hides the Future, but is slowly rolling aside and disclosing it. That part of the panorama which is veiled is supposed to exist as vividly coloured as the rest, though latent. In short, this experience has given me an occasional feeling that there are no realities corresponding to Past, Present and Future, but that the entire cosmos is one perpetual Now. Philosophers have often held this creed intellectually, but I suspect that few have felt the possible truth of it so vividly as it has occasionally appeared to my imagination through dwelling on these *Memories*.

The following are extracts from the *Recollections of Francis Galton*,* written by his niece, Mrs. Millicent Lethbridge, whose religious views were more orthodox than those of her uncle.

* Quoted by Karl Pearson: *Life of Francis Galton*, Vol. III B., pp. 446-9.

It would be hard, she wrote, to find anyone with so high an ideal of duty as his, and I do not hesitate to affirm that nothing—not self-interest, praise, blame, or anything else, would have made him swerve a hair's breadth from what he conceived to be right. To that which he believed to be true, he felt bound to give utterance, even though it caused him the disapprobation and even the deep sorrow of some whose love and sympathy he most valued. This was especially the case when his work on *Human Faculty* came out in 1883, with a chapter on prayer. . . . I have heard him called hard names—" Atheist," " Unbeliever " and so on. My own description of his creed would be that of a Religious Agnostic. Faith was denied him, and, as he often told me, all *intuitive witness* to the Divine. The question of the reality of this " intuitive witness," however, interested him deeply, and he would have given much to convince himself that it was real or imaginary, subjective or objective. James's *Varieties of Religious Experience* was a book that occupied his thoughts a great deal. . . . He has told me that, at one time of his life (I imagine when he was very young) the asceticism of the Roman Church appealed to him very strongly. His admiration for the uncompromising monotheism of Mohammedanism was recurrent. I imagine that he was latterly much attracted by Spinoza. But early love and sentiment were all on the side of Quakerism. He would sometimes ask where such or such a parable or discourse of Our Lord was to be found and he would read it aloud, saying, half to himself, as he shut the book, " Perfect—very perfect."

He was scrupulously careful not to say anything on religious topics that could possibly distress or injure the faith of anyone—especially the young—and I never knew him say anything that was not absolutely reverent. . . . In spite of his much abused chapter on Prayer in *Human Faculty*, I know he used to pray himself; indeed in one of his letters to me he wrote (May 12th, 1907) : " Did I ever tell you that I have always made it a habit to *pray* before writing anything for publication, that there may be no self-seeking in it, and perfect candour together with perfect respect for the feelings of others ? " . . .

There were many beautiful traits in my uncle's character, upon which I cannot now expatiate. His old-world courtesy, displayed not only in society, but still more at home, to those with whom he was in daily intercourse and to his servants . . . his almost exaggerated dread of appropriating any laurels due to others, which feeling led him to the opposite extreme of magnifying the achievements of others while minimizing his own—his horror of self-advertisement. coupled though it was with a naïve delinght in unsought appreciation—all this is familiar to those who had the privilege of knowing him. . . .

Eugenics as Science, Religion and Social Policy

The subject of this lecture is Galton's outlook on religion. I remarked at the beginning that Galton conceived eugenics not only as a component of religion but also as science and social policy. The critic might demur. " Science, politics and religion," he might argue, " belong to such entirely different spheres of human activity that they cannot be confounded." I believe that such a criticism would be based on a misunderstanding of Galton's position. Let me try to make this point clearer by an analogy drawn from the physiology of the central nervous system.

The spinal reflex has three components: first we may consider the sensory, afferent or centripetal component, wherein the impulse travels up the sensory pathways of the peripheral nerves to the spinal cord. Next is the central component within the spinal cord itself; this structure is comparable to a telephone exchange where complicated connections and intercommunications are made. Thirdly we have the motor, efferent or centrifugal component of the reflex arc whereby the impulse is carried outward to a group of muscles which are caused to contract or relax. William MacDougall has ingeniously compared these three components of the simple reflex to analogous components of an instinct: but here the nervous mechanisms are more complicated because the brain is involved. The sensory or centripetal element of the spinal reflex he compared to the cognitive phase of the instinct; the central or telephone-exchange component of the reflex he compared to the affective or emotional phase of the instinct; and the efferent, centrifugal or motor component of the reflex he compared to the conative phase of the instinct which usually consists of some appropriate muscular action or movement of the animal in relation to the outside world.

We will be helped to an understanding of Galton's position by extending the analogy still further than did MacDougall. We may allow ourselves to apply it to social processes. To effect a social change, three phases are necessary. We must first collect necessary information, by ascertaining and assembling

relevant facts; next we must interpret these facts in such a way that the public will react to them emotionally in the desired manner; and thirdly we must direct along appropriate channels the social actions which are initiated by the feelings we have aroused. These are the three phases of eugenics as conceived by Galton. Eugenics as science produces the required information; eugenics as religion evokes in us the appropriate emotional responses to the facts; and eugenics as social policy translates the emotions which have been aroused into needed practical measures.

Eugenics as religion therefore corresponds, in our analogy, to the central or telephone-exchange phase of the reflex, and to the affective or emotional phase of the instinct. This is, in a sense, the most important phase: in the sense, I mean that, in the sequence facts : values : actions, values hold the central place.

To-day's Perspective

I conclude this lecture with a word about what I have omitted. I have said nothing about Galton's numerous contributions to science outside eugenics. I have said nothing about how Galton conceived eugenics as science or as social policy. His views as to the former—eugenics as science—would require several lectures to outline; his views on the latter—on eugenics as social policy—would, I believe, have changed if he had lived longer. Much has happened in the world since Galton's death in 1911 to alter his outlook. We have been convulsed by two planetary wars; the birth-control movement has arisen;* the chromosome theory has been propounded by Morgan and elaborated by a host of other workers; the human blood-groups have been discovered; the slump of our net reproduction rate below unity has effected a change-over from an overpopulation to a depopulation scare; socialism has come; and the world has become familiarized with how the principles of eugenics can be perverted by dictators and totalitarian governments. It is interesting to speculate on what Galton would have thought of these events.

I draw attention to these and other omissions. Nevertheless, I hope you will agree with me that Galton's outlook on religion enables us to understand why eugenics meant so much to him and why, in the last decade of his life, it was his main preoccupation and besetting thought.

His views on religion, moreover, give us an insight into his character. Surely we, in this *Society*, are fortunate in having as a founder one whose character no less than whose intellect we can so whole-heartedly respect.

* I do not know of a single reference in Galton's writings to birth control; not does he ever refer to sterilization.